

## CLAIMS

1. A process for the dry impregnation of a highly porous mineral oxide with a sufficient amount of concentrated orthophosphoric or polyphosphoric acid, followed by drying at atmospheric pressure at a temperature of between 100 and 200°C for at least 3 hours, followed by calcination at atmospheric pressure at a temperature of between 200°C and 500°C for at least 2 hours.

2. The process as claimed in claim 1, characterized in that the highly porous mineral oxide is a mineral oxide with a pore volume of at least 1 ml/g.

3. The process as claimed in claim 2, characterized in that the highly porous mineral oxide is a mineral oxide with a pore volume of at least 3 ml/g.

4. The process as claimed in any one of claims 1 to 3, characterized in that the mineral oxide is chosen from silica, alumina, silica-alumina, zirconia and titanium oxide.

5. The process as claimed in claim 4, characterized in that the mineral oxide is silica.

6. The process as claimed in any one of claims 1 to 5, characterized in that the sufficient amount of concentrated orthophosphoric or polyphosphoric acid to be used for the impregnation preferably corresponds to the maximum amount that it is possible to impregnate on the mineral oxide, i.e. the volume for which the mineral oxide is no longer capable of absorbing the liquid orthophosphoric or polyphosphoric acid.

10 7. The process as claimed in any one of claims 1 to 6, characterized in that the polyphosphoric acid used is chosen from pyrophosphoric acid or diphosphoric acid of formula  $H_4P_2O_7$ , triphosphoric acid of formula  $H_5P_3O_{10}$ , the polyphosphoric acids of formula  
15  $H_{n+2}P_nO_{3n+1}$ , and the metaphosphoric acids of formula  $H_nP_nO_{3n}$ , or a mixture thereof.

8. The process as claimed in any one of claims 1 to 7, characterized in that the polyphosphoric acid used has an  $H_3PO_4$  equivalent of greater than 100.

20 9. A product that may be obtained by the process as claimed in any one of claims 1 to 8.

10. The use of the product as claimed in claim 9 for rendering polymers fire retardant.

11. The use as claimed in claim 10,  
25 characterized in that the polymers are chosen from

thermosetting polymers.

12. The use as claimed in claim 10,  
characterized in that the polymers are chosen from  
thermoplastic polymers.

5 13. The use as claimed in claim 12,  
characterized in that the thermoplastic polymer is a  
polyolefin.

14. The use as claimed in claim 13,  
characterized in that the polyolefin is polypropylene.